

इंटरनेट

मानक

Disclosure to Promote the Right To Information

Whereas the Parliament of India has set out to provide a practical regime of right to information for citizens to secure access to information under the control of public authorities, in order to promote transparency and accountability in the working of every public authority, and whereas the attached publication of the Bureau of Indian Standards is of particular interest to the public, particularly disadvantaged communities and those engaged in the pursuit of education and knowledge, the attached public safety standard is made available to promote the timely dissemination of this information in an accurate manner to the public.

“जानने का अधिकार, जीने का अधिकार”

Mazdoor Kisan Shakti Sangathan

“The Right to Information, The Right to Live”

“पुराने को छोड़ नये के तरफ”

Jawaharlal Nehru

“Step Out From the Old to the New”

IS 11581 (1986): Edible Cottonseed Flour Prepared by Liquid Cyclone Process [FAD 16: Foodgrains, Starches and Ready to Eat Foods]



“ज्ञान से एक नये भारत का निर्माण”

Satyanarayan Gangaram Pitroda

“Invent a New India Using Knowledge”



“ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है”

Bhartrihari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”

BLANK PAGE



IS : 11581 - 1986

Indian Standard

SPECIFICATION FOR
EDIBLE COTTONSEED FLOUR PREPARED BY
LIQUID CYCLONE PROCESS

UDC 664.641.2 [633.512]



© Copyright 1986

INDIAN STANDARDS INSTITUTION
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

Indian Standard

SPECIFICATION FOR EDIBLE COTTONSEED FLOUR PREPARED BY LIQUID CYCLONE PROCESS

Nutrition Sectional Committee, AFDC 37

Chairman

DR P. R. KRISHNASWAMY

Representing

United Breweries Group, Bangalore

Members

DR K. T. ACHAYA	In personal capacity (282 Hundred Feet Road, Indra Nagar, Bangalore)
DR B. P. BALIGA	Tata Oil Mills Co Ltd, Bombay
SRI M. C. BADAMI (Alternate)	
DR A. D. DEODHAR	National Dairy Research Institute (ICAR), Karnal
DR B. N. MATHUR (Alternate)	
DR SHRIMATI RAJAMMAL P. DEVDAS	Home Science Association of India, Coimbatore
DR SYED RIYAZ AHMED (Alternate)	
SRI K. S. KANNAN	Britannia Industries Ltd, Bombay
DR R. JAYARAM (Alternate)	
MAJ-GEN KEWAL KRISHNA	Directorate General of Armed Forces Medical Services, New Delhi
COL G. B. MATHUR (Alternate)	
DR B. M. LAL	Indian Agricultural Research Institute (ICAR), New Delhi
DR S. K. MEHTA (Alternate)	
DR G. P. MATHUR	Hindustan Lever Ltd, Bombay
SRI N. MRUTHUNJAYA	Bangalore Dairy Miltone Project, Bangalore
DR C. L. NAGARSEKAR	Protein Foods & Nutrition Development Association of India, Bombay
SRI B. S. NARAYNA	Reckitt & Colman of India Ltd, Calcutta
DR V. S. SAXENA (Alternate I)	
SRI BRUDEB GUPTA (Alternate II)	
SRI K. L. RADHAKRISHNAN	Modern Food Industries (India) Ltd, New Delhi
DR G. A. SULEBELE (Alternate)	
DR N. S. RAJAGOPAL	Directorate of Vanaspathi, Vegetable Oils & Fats (Ministry of Food & Civil Supplies), New Delhi
DR M. K. KUNDU (Alternate)	

(Continued on page 2)

© Copyright 1986

INDIAN STANDARDS INSTITUTION

This publication is protected under the *Indian Copyright Act (XIV of 1957)* and reproduction in whole or in part by any means except with written permission of the publisher shall be deemed to be an infringement of copyright under the said Act.

(Continued from page 1)

<i>Members</i>	<i>Representing</i>
SHRI S. RAMASWAMY	Directorate General of Technical Development, New Delhi
ASSISTANT DEVELOPMENT OFFICER (Alternate)	
DR P. R. RANGANATHAN	Mysore Snack Food Ltd, Bangalore
DR B. S. NABASINGA RAO	National Institute of Nutrition, Hyderabad
SHRI K. NARAYAN RAO	Food Corporation of India, New Delhi
SHRI C. S. SHIVANNA (Alternate)	
DR M. V. RAMA RAO	Defence Food Research Laboratory, Mysore
DR K. SANTHANAM (Alternate)	
DR S. VENKATA RAO	Central Food Technological Research Institute (CSIR), Mysore
SHRI M. G. SATHI	Sathe Biscuits & Chocolates Co Ltd, Pune
SHRI S. V. PHADKE (Alternate)	
DR P. C. SEN	Director General of Health Services, New Delhi
ADDITIONAL DIRECTOR GENERAL (PFA) (Alternate)	
SHRI R. K. SETH	Solvent Extractor's Association of India, Bombay
SHRI V. H. SHAM	Kaira District Co-operative Milk Producers' Union Ltd, Anand
SHRI KAILASH VYAS (Alternate)	
SHRI G. D. SHARMA	Food & Nutrition Board, Department of Food (Ministry of Food & Civil Supplies), New Delhi
DR B. K. NANDI (Alternate)	
DR U. C. UPADHYAY	Indian Council of Agricultural Research, New Delhi
DR P. B. MATHUR (Alternate)	
KUMARI M. S. USHA	G. B. Pant University of Agriculture & Technology, Pantnagar
SHRI VINAY VIRMANI	Roller Flour Millers Federation of India, New Delhi
SHRI SANTANU CHAUDHURI (Alternate)	
SHRI T. PURNANANDAM, Director (Agri & Food)	Director General, ISI (Ex-officio Member)
<i>Secretary</i>	
SHRIMATI SHASHI SAREEN	
Deputy Director (Agri & Food), ISI	

Protein Rich Foods Subcommittee, AFDC 37 : 2

<i>Convener</i>	
DR G. A. SULEBELE	Modern Food Industries (India) Ltd, New Delhi
<i>Members</i>	
DR K. T. ACHAYA	In personal capacity
ADDITIONAL DIRECTOR GENERAL (PFA)	Directorate General of Health Services, New Delhi
SHRIMATI DEBI MUKHERJEE (Alternate)	

(Continued on page 8)

AMENDMENT NO. 1 JUNE 1988

TO

IS:11581-1986 SPECIFICATION FOR EDIBLE COTTONSEED
FLOUR PREPARED BY LIQUID CYCLONE PROCESS

[Page 5, Table 1, Sl No.(viii), col 2] -
Substitute 'Residual solvent mg/kg, Max' for the
existing matter.

(AFDC 37)

Reprography Unit, BIS, New Delhi, India

Indian Standard
SPECIFICATION FOR
EDIBLE COTTONSEED FLOUR PREPARED BY
LIQUID CYCLONE PROCESS

0. FOREWORD

0.1 This Indian Standard was adopted by the Indian Standards Institution on 21 February 1986, after the draft finalized by the Nutrition Sectional Committee had been approved by the Agricultural and Food Products Division Council.

0.2 Protein forms an essential constituent of human diet. Cottonseed oilcakes are now increasingly used for the preparation of edible cottonseed flour and there is considerable scope for commercial production of this product. The flour, is rich in protein and lysine and may be used as a protein supplement in human dietaries. It is obtained as a powder which may be used both in blended and processed foods. In view of these possibilities, the Regional Research Laboratory, Hyderabad, carried out pioneering work on the production of edible cottonseed flour made by the liquid cyclone process and it is now being manufactured in the country on a commercial scale. This standard has been prepared to help in exercising proper quality control of edible cottonseed flour, made by the liquid cyclone process (LCP) from cottonseed meals.

0.3 A separate Indian Standard (IS : 4876-1986*) has been published on edible cottonseed flour (solvent extracted).

0.4 While formulating this standard due consideration has been given to the relevant rules issued by the Government of India under the Prevention of Food Adulteration Act, 1954. This standard is, however, subject to the restrictions imposed under that Act, wherever applicable.

0.5 This standard contains 2.2 which calls for an agreement between the purchaser and the supplier.

0.6 For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated,

*Specification for edible cottonseed flour (solvent extracted) (*first revision*).

expressing the result of a test or analysis, shall be rounded off in accordance with IS : 2-1960*. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

1. SCOPE

1.1 This standard prescribes the requirements and the methods of sampling and test for edible cottonseed flour prepared by liquid cyclone process.

2. REQUIREMENTS

2.1 Description — The material shall be obtained from cleaned, delinted and dehulled cottonseeds by means of liquid cyclone process. It shall be in the form of flour of white to pale brownish-yellow colour, uniform in composition and free from insects, rodent hair and excreta, fungal infection, objectionable odour and rancid taste. It shall not contain added flavouring or odouring agents or any other extraneous matter.

NOTE — The appearance, taste and odour shall be determined by organoleptic tests.

2.2 Particle Size — Unless otherwise specified by the purchaser, the material shall be such that it passes completely through a 150-micron IS Sieve [see IS : 460 (Part 1)-1978†].

2.3 The material shall be manufactured, packed, stored and distributed under hygienic conditions in licensed premises (see IS : 2491-1972‡).

2.4 The material shall also comply with the requirements given in Table 1.

3. PACKING

3.1 The material shall be packed in sealed metal containers or jute/hessian bags with polyethylene lining of 40 to 75 microns.

*Rules for rounding off numerical values (revised).

†Specification for test sieves: Part 1 Wire cloth test sieves (first revision).

‡Code for hygienic conditions for food processing units (first revision).

**TABLE 1 REQUIREMENTS FOR EDIBLE COTTONSEED FLOUR
OBTAINED BY LIQUID CYCLONE PROCESS**

(Clause 2.4)

SL No.	CHARACTERISTIC	REQUIRE- MENT	METHOD OF TEST, REF TO APPENDIX OF	
			IS : 4684- 1975*	Others
(1)	(2)	(3)	(4)	(5)
i)	Moisture, percent by mass, <i>Max</i>	8.0	B	—
ii)	Crude protein ($N \times 6.25$) (on dry basis), percent by mass, <i>Min</i>	55.0	C	—
iii)	Available lysine, g per 100 g of crude protein, <i>Min</i>	3.9	—	Appendix A of IS : 4876-1986†
iv)	Total ash (on dry basis), percent by mass, <i>Max</i>	5.0	D	—
v)	Acid in soluble ash (on dry basis), percent by mass, <i>Max</i>	0.35	E	—
vi)	Fat (on dry basis), percent by mass, <i>Max</i>	3.0	F	—
vii)	Crude fibre (on dry basis), percent by mass, <i>Max</i>	5.0	H	—
viii)	Residual solvent mg/kg	170	—	IS : 11674-1986‡
ix)	Free gossypol, percent by mass, <i>Max</i>	0.06	—	Appendix B of IS : 4876-1986†
x)	Total gossypol, percent by mass, <i>Max</i>	0.5	—	Appendix C of IS : 4876-1986†
xi)	Total bacterial count per g, <i>Max</i>	50 000	—	IS : 5402-1969§
xii)	Coliform bacteria per g, <i>Max</i>	10	—	IS : 5401-1969
xiii)	Salmonella bacteria	Nil	—	IS : 5887 (Part 3)-1976

*Specification for edible groundnut flour (expeller pressed) (*first revision*).

†Specification for edible cottonseed flour (solvent extract).

‡Method for determination of residual solvent from flash point determination by modified Pensky-Martens closed tester.

§Method for standard plate count of bacteria in foodstuffs.

||Method for detection and estimation of coliform bacteria in foodstuffs.

|||Method for detection of bacteria responsible for food poisoning : Part 3 Isolation and identification of salmonella and shigella (*first revision*).

4. MARKING

4.1 The following particulars shall be marked legibly or labelled on each container:

- a) Name of the material;
- b) Name and address of the manufacturer;
- c) Batch or code number;
- d) Net mass;
- e) Date of manufacture; and
- f) Any other requirements under the Standards of Weights and Measures (Packaged Commodities) Rules, 1977.

4.1.1 Each container may also be marked with the ISI Certification Mark.

NOTE — The use of the ISI Certification Mark is governed by the provisions of the Indian Standards Institution (Certification Marks) Act and the Rules and Regulations made thereunder. The ISI Mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard under a well-defined system of inspection, testing and quality control which is devised and supervised by ISI and operated by the producer. ISI Marked products are also continuously checked by ISI for conformity to that standard as a further safeguard. Details of conditions under which a licence for the use of the ISI Certification Mark may be granted to manufacturers or processors, may be obtained from the Indian Standards Institution.

5. SAMPLING

5.1 The method of drawing representative sample of the material and the criteria for conformity shall be as prescribed in IS : 5315-1978*.

5.2 The composite sample of at least 2 kg as given 7.1 of IS : 5315-1978* shall be divided into three test samples, three samples for moisture determination and three samples for testing micro-biological requirements. Each test sample shall comprise about 500 g, each sample for moisture determination about 100 g and each sample for testing microbiological requirements about 50 g.

5.3 The lot shall be declared as conforming to the requirements of the specification if all the test results on the test sample, for moisture determination and sample for microbiological requirements are found to be conforming to the relevant specification requirements.

*Method of sampling for milled cereals and pulses products (*first revision*).

6. TESTS

6.1 Tests shall be carried out in accordance with 2.1, 2.2 and appropriate appendices as specified in col 4 and 5 of Table 1.

6.2 Quality of Reagents — Unless specified, otherwise, pure chemicals shall be employed in tests and distilled water (*see* IS : 1070-1977*) shall be used where the use of water as a reagent is intended.

NOTE — 'Pure chemicals' shall mean chemicals that do not contain impurities which affect the results of analysis.

*Specification for water for general laboratory use (*second revision*).

(Continued from page 2)

<i>Members</i>	<i>Representing</i>
SHRI S. N. AGARWAL	Prag Ice & Oils Mills, Aligarh
SHRI M. C. BADAMI	Tata Oil Mills Co Ltd, Bombay
DR G. S. SARNIS (<i>Alternate</i>)	
SHRI J. M. DATTA	The Britannia Industries Ltd, Bombay
BRIG S. K. DEWAN	Technical Standardization Committee (Foodstuffs) (Ministry of Food & Civil Supplies), New Delhi
SHRI K. S. KRISHNAMURTHY (<i>Alternate</i>)	
SHRI G. LAKSHMINARAYANA	Regional Research Laboratory (CSIR), Hyderabad
DR A. B. AFZALPURKAR (<i>Alternate</i>)	
SHRI N. MRUTHUNJAYA	Bangalore Dairy Miltone Project, Bangalore
DR C. L. NAGARSEKAR	Protein Foods & Nutrition Development Association of India, Bombay
SHRI K. L. RADHAKRISHNAN	Modern Food Industries (India) Ltd, New Delhi
DR N. S. RAJAGOPAL	Directorate of Vanaspathi, Vegetable Oils & Fats (Ministry of Food & Civil Supplies), New Delhi
DR M. K. KUNDU (<i>Alternate</i>)	
SHRI S. RAMASWAMY	Directorate General of Technical Development, New Delhi
DR D. R. RANGANATHAN	Mysore Snack Foods Ltd, Bangalore
DR B. S. NARASINGA RAO	National Institute of Nutrition, Hyderabad
SHRI K. NARAYANA RAO	Food Corporation of India, New Delhi
SHRI C. S. SHIVANNA (<i>Alternate</i>)	
DR U. Y. REGE	Raptakos Brett & Company Ltd, Bombay
SHRI V. H. SHAH	Kaira District Co-operative Milk Producers' Union Ltd, Anand
SHRI DINESH SHAHRA	General Foods Private Ltd, Indore
SHRI SANTOSH SHAHRA (<i>Alternate</i>)	
DR G. D. SHARMA	Food & Nutrition Board, Department of Food (Ministry of Food & Civil Supplies), New Delhi
DR B. K. NANDI (<i>Alternate</i>)	
SHRI M. KANTHARAJ UBS	Central Food Technological Research Institute. (CSIR), Mysore
DR G. RAMANATHAN (<i>Alternate</i>)	



INDIAN STANDARDS INSTITUTION

Headquarters:

Manak Bhavan, 9 Bahadur Shah Zafar Marg, NEW DELHI 110002

Telephones : 331 0131 331 1375

Telegrams : Manaksanstha
(Common to all Offices)

Regional Offices:

Telephone

*Western : Manakalaya, E9 MIDC, Marol Andheri (East) 6 32 92 95
BOMBAY 400093

†Eastern : 1/14 C. I. T. Scheme VII M, V. I. P. Road, 36 24 99
Maniktola, CALCUTTA 700054

Northern : SCO 445-446, Sector 35-C { 2 18 43
CHANDIGARH 160036 { 3 16 41

Southern : C. I. T. Campus, MADRAS 600113 { 41 24 42
{ 41 25 19
{ 41 29 16

Branch Offices:

‘Pushpak’, Nurmohamed Shaikh Marg, Khanpur { 2 63 48
AHMADABAD 380001 { 2 63 49

‘F’ Block, Unity Bldg, Narasimharaja Square, 22 48 05
BANGALORE 560002

Gangotri Complex, 5th Floor, Bhadbhada Road, 6 67 16
T. T. Nagar, BHOPAL 462003

Plot No. 82/83, Lewis Road, BHUBANESHWAR 751002 5 36 27

53/5 Ward No. 29, R. G. Barua Road, 5th Byelane,
GUWAHATI 781003 —

5-8-56C L. N. Gupta Marg, HYDERABAD 500001 22 10 83

R14 Yudhister Marg, C Scheme, JAIPUR 302005 { 6 34 71
{ 6 98 32

117/418 B Sarvodaya Nagar, KANPUR 208005 { 21 68 76
{ 21 82 92

Patliputra Industrial Estate, PATNA 800013 6 23 05

Hantex Bldg (2nd Floor), Rly Station Road, 62 27
TRIVANDRUM 695001

Inspection Office (With Sale Point):

Institution of Engineers (India) Building, 1332 Shivaji Nagar, 5 24 35
PUNE 411005

*Sales Office in Bombay is at Novelty Chambers, Grant Road, 89 65 28
BOMBAY 400007

†Sales Office in Calcutta is at 5 Chowringhee Approach, 27 68 03
P.O. Princep Street, CALCUTTA 700072